

B1
a processing unit for calculating the position and an intracorporal orientation of the working catheter on the basis of signals received from the reference catheter reference units.

7. (twice amended) The system of claim 1,
wherein at least one reference unit is arranged at a tip of the working catheter, [the catheter tip] and
at least one further reference unit is arranged in the rest of the distal region of the working catheter.

B2
13. (twice amended) The system of claim 1, wherein
the plurality of working catheter reference units comprises at least three working catheter reference units; and
the processing unit calculates a three-dimensional spline that represents the position of the working catheter in the reference catheter co-ordinate system from the data from the at least three working catheter reference units.

B3
19. (twice amended) The system of claim 1,
wherein the working catheter has at least two electrodes mounted on the working catheter at different locations from the reference units, wherein, relative to the electrodes, the reference units are in a previously established specific spatial position that can be taken into account by the processing unit [units] when ascertaining the position of the working catheter in the co-ordinate system defined by the reference catheter.

B4
28. (amended) The system of claim 2 [25],
wherein the working catheter reference units are asymmetrically arranged on the working catheter so that the orientation of the working catheter can be detected in the co-ordinate system of the reference catheter.

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29. (amended) The system of claim 3 [26],
wherein the working catheter reference units are asymmetrically arranged on the working catheter so that the orientation of the working catheter can be detected in the co-ordinate system of the reference catheter.

B6
38. (amended) The system of claim 6,

wherein at least one reference unit is arranged at a tip of the working catheter, [the catheter tip] and

at least one further reference unit is arranged in the rest of the distal region of the working catheter.

B6
39. (amended) The system of claim 34,

wherein at least one reference unit is arranged at a tip of the working catheter, [the catheter tip] and

at least one further reference unit is arranged in the rest of the distal region of the working catheter.

B7
41. (amended) The system of claim 36,

wherein at least one reference unit is arranged at a tip of the working catheter, [the catheter tip] and

at least one further reference unit is arranged in the rest of the distal region of the working catheter.

42. (amended) The system of claim 37,

wherein at least one reference unit is arranged at a tip of the working catheter, [the catheter tip] and

at least one further reference unit is arranged in the rest of the distal region of the working catheter.

(Please enter the following new claims:

B8
52. (new) A system for determining an intracorporal position of a working catheter, comprising

a working catheter for carrying out desired working operations; and
an intracorporal reference catheter for producing a co-ordinate system,
wherein the working catheter has a plurality of working catheter reference units for sending signals which are characteristic for the position of the working catheter, at least one said reference unit being arranged at a tip of the working catheter and at least one further said reference unit being arranged in the rest of the distal region of the working catheter, and

wherein the reference catheter has a plurality of reference catheter reference units for receiving the signals sent by the working catheter reference units, and

a processing unit for calculating the position and an intracorporal orientation of the working catheter on the basis of signals received from the reference catheter reference units.

53. (new) The system of claim 52,

wherein the at least one further reference unit is a plurality of said reference units.

54. (new) The system of claim 53,

wherein there are at least twelve said further reference units arranged in the rest of the distal region of the catheter.

55. (new) The system of claim 53,

wherein there are fewer than twenty-four further reference units arranged in the rest of the distal region of the catheter.

56. (new) A system for determining an intracorporal position of a working catheter, comprising

a working catheter for carrying out desired working operations; and

an intracorporal reference catheter for producing a co-ordinate system,

wherein the working catheter has a plurality of working catheter reference units for sending signals which are characteristic for the position of the working catheter, and

the reference catheter has a plurality of reference catheter reference units for receiving the signals sent by the working catheter reference units, and

a processing unit for calculating the position and an intracorporal orientation of the working catheter on the basis of signals received from the reference catheter reference units,

wherein a distal region of the working catheter is of a previously established specific shape on which distal region at least three reference units are distributed so that the specific, previously established shape of the distal region can be incorporated by the processing unit when ascertaining the position of the working catheter by calculating the position of the working catheter.

57. (new) The system of claim 56,

wherein the previously established specific shape is a circular arc.

58. (new) A system for determining an intracorporal position of a working catheter, comprising

- a working catheter for carrying out desired working operations; and
- an intracorporal reference catheter for producing a co-ordinate system,
- wherein the working catheter has a plurality of working catheter reference units for sending signals which are characteristic for the position of the working catheter, and
- the reference catheter has a plurality of reference catheter reference units for receiving the signals sent by the working catheter reference units, and
- a processing unit for calculating the position and an intracorporal orientation of the working catheter on the basis of signals received from the reference catheter reference units, and

 wherein at least one of the reference units is a sensor for detecting the presence and/or the strength of the wall contact of the working catheter with the endocardium surrounding the catheter.

59. (new) A system for determining an intracorporal position of a working catheter, comprising

- a working catheter for carrying out desired working operations; and
- an intracorporal reference catheter for producing a co-ordinate system,
- wherein the working catheter has a plurality of working catheter reference units for sending signals which are characteristic for the position of the working catheter, and
- the reference catheter has a plurality of reference catheter reference units for receiving the signals sent by the working catheter reference units, and
- a processing unit for calculating the position and an intracorporal orientation of the working catheter on the basis of signals received from the reference catheter reference units,
- wherein the reference units are electrodes that are actuatable simultaneously by the processing unit.

60. (new) A system for determining an intracorporal position of a working catheter, comprising

- a working catheter for carrying out desired working operations; and
- an intracorporal reference catheter for producing a co-ordinate system,

wherein the working catheter has a plurality of working catheter reference units for sending signals which are characteristic for the position of the working catheter, and the reference catheter has a plurality of reference catheter reference units for receiving the signals sent by the working catheter reference units, and

a processing unit for calculating the position and an intracorporal orientation of the working catheter on the basis of signals received from the reference catheter reference units,

wherein the working catheter has at least two electrodes mounted on the working catheter at different locations from the reference units, wherein, relative to the electrodes, the reference units are in a previously established specific spatial position that can be taken into account by the processing unit when ascertaining the position of the working catheter in the co-ordinate system defined by the reference catheter.

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